

REMARKS

The present application contains Claims 1-7, 10-16, 31-38, 41, 44-46, and 48-56.

Applicants have amended Claims 1, 10, 31, 51 and 52 to recite "at tip and ring terminals of modem input port". Applicants note that this amendment now provides greater clarity to the limitation that channel frequency response and the noise are determined before being processed by the modem.

The claims have been amended to a scope commensurate with the support of the specification. No new matter has been introduced by way of the amendment.

Examiner Interview

An Examiner Interview was held on September 17, 2008 between Examiner Ghulamali; first named inventor Gin Liu; attorney for the assignee, Jaspreet Harit; and representative for Applicants, Xiang Lu.

During the interview, Gin Liu provided a brief summary of the claimed invention, and the state of the technology at the time of the invention. Gin Liu pointed out that the present invention, was readily incorporated as part of the DSL standard after the filing of this application, because there was clearly a need for the proposed diagnostic trouble shooting using the channel response characteristics and the noise, without the influence of a filter and/or a gain controller, as described in the present application. Xiang Lu then discussed the claim limitations not taught or suggested by the references; the lack of suggestion, motivation to combine the cited references; and the lack of rational underpinning to support the obviousness rejection.

Examiner Ghulamali suggested that Applicants submit the arguments presented in the Examiner Interview in a response.

It was agreed that the Examiner will review the response, and discuss any related issues with representative for Applicants, Xiang Lu (613-786-8680) before issuing next Office Action.

Rejection under 35 U.S.C. §103

The Office rejected Claims 1-7, 10-16, 31-43, 47-50, 51, 53, and 55 under 35 U.S.C. §103 (a) as being unpatentable over Herzberg (U.S. Patent 6,459,678), hereinafter referred to as Herzberg in view of Abbas, et al., (U.S. Publication No. 2002/0080867), hereinafter referred to as Abbas, and further in view of Chea Jr., hereinafter referred to as Chea.

Applicants respectfully traverse the rejection to the extent such rejection may be considered applicable to the amended claims.

It has been discussed in the Response filed on April 10, 2008: a) that Herzberg or Abbas does not teach or suggest the "tip and ring" limitation (now amended as "*determining channel frequency response and a noise at tip and ring terminals of a modem input port*"); b) that this is not a trivial task, as evidenced in ITU-T G.992.3; and c) Applicants were the first to recognize the advantage of this approach. For the brevity of this Response, these arguments are not repeated here, but are incorporated herewith by reference.

Applicants further note that Herzberg or Abbas does not teach or suggest the limitations that the channel frequency response and noise measurements are stored in data registers on a per bin basis, and that the measurements, determined at the tip and ring terminals, are transmitted to the other end.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In *re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the

patentability of that claim against the prior art." In *re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The Office has not met his burden as at least the foregoing elements of the independent claims are not taught or suggest by the prior art.

The Office stated that "registers or data registers for storage of electrical or electronic information is well known in the art of computer architecture and register can be any general purpose register".

Applicants respectfully request reconsideration.

Clearly, the Office is not considering the subject matter as a whole when interpreting the claimed limitations of storing the respective claimed measurements in the data registers, which are not well known in the art. Should the Office maintain this statement, Applicants hereby request documentary evidence under 37 C.F.R. §1.104(d)(2). If the Examiner is relying on personal knowledge to support the finding of what is known in the art, the Examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 C.F.R. §1.104(d)(2).

The Office further stated that Chea in a similar field of endeavor discloses remotely addressable maintenance unit (RAMU) for performing testing and maintenance tasks on the copper loop connected to tip and ring. Applicants note that, as correctly stated by the Office, Chea teaches a maintenance unit. Furthermore, this maintenance unit is an external maintenance unit. See, for example, paragraph [0027], or Figure 4, of Chea.

Applicants respectfully traverse the rejection as Applicants' pending claims are patentable over the cited references for reason as set forth below.

In order to set forth a *prima facie* case of obviousness under 35 U.S.C. §103(a), there must be (1) some teaching, suggestion or incentive supporting the combination of cited references to produce the claimed invention (*ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 329, 933 (Fed. Cir. 1984)); and (2) the combination of the cited references must actually teach or suggest the claimed invention.

Further, that which is within the capabilities of one skilled in the art is not synonymous with that which is obvious. *Ex parte Gerlach*, 212 USPQ 471 (Bd. APP. 1980). Obviousness is tested by "what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981), but it cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination (*ACS Hosp. Systems, Inc. v. Montefiore Hosp.* 732 F.2d 1572, 1577, 221 USPQ 329, 933 (Fed. Cir. 1984)). "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher" *W.L. Gore & Associates, Inc. v. Garlock Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).

The modification of Herzberg and Abbas in view of Chea is based purely on improper hindsight. The proposed rejections are classic examples of hindsight reconstruction that is contrary to the law. Controlling Federal Circuit and Board precedent require that the Office set forth specific and particularized motivation for one of ordinary skill in the art to modify a primary reference to achieve a claimed invention. *Ruiz v. A. B. Chance Co.*, 234 F.3d 654, 664 (Fed. Cir. 2000) ("[t]o prevent a hindsight-based obviousness analysis, [the Federal Circuit has] clearly established that the relevant inquiry for determining the scope and content of the prior art is whether there is a reason,

suggestion, or motivation in the prior art or elsewhere that would have led one of ordinary skill in the art to combine the references."). The Office has failed to set forth a *prima facie* case of obviousness.

Specifically, when a primary reference is missing elements, the law of obviousness requires that the Office set forth some motivation why one of ordinary skill in the art would have been motivated to modify the primary reference in the exact manner proposed. *Ruiz*, 234 F.3d at 664. In other words, there must be some recognition that the primary reference has a problem and that the proposed modification will solve that exact problem. All of this motivation must come from the teachings of the prior art to avoid impermissible hindsight looking back at the time of the invention.

The Office fails to show any motivation as to why one of ordinary skill in the art would have been motivated to modify Herzberg and Abbas as suggested by the Office. The mere fact that the various separate disclosures and teachings can be combined or modified does not render the resultant combination or modification obvious unless there is a suggestion or motivation found somewhere in the prior art regarding the desirability of the combination or modification. See M.P.E.P. §2143.01; see also *In re Mills*, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990); *In re Fritz*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). In addition, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20U.S.P.Q.2d 1438 (Fed. Cir. 1991). The differences between the teachings in the cited reference must be evaluated in terms of the whole invention, and the prior art must provide a teaching or suggestion to the person of ordinary skill in the art to have made the changes that would produce the claimed product. See, e.g., *Lindemann Maschinen-fabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1462, 221 U.S.P.Q.2d 481, 488 (Fed. Cir. 1984). The mere fact that prior art may be modified to produce the claimed product does not make the modification obvious unless the prior art

suggests the desirability of the modification. *In re Fritch*, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

In re Hedges, 783, F.2d 1038, 1041, 228 U.S.P.Q. 685, 687, (Fed. Cir. 1986), the U.S. Court of Appeals for the Federal Circuit stated that "the prior art as a whole must be considered. The teachings are to be viewed as they would have been viewed by one of ordinary skill." The court also stated that "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art" (quoting *In re Wesslau*, 353 F.2d 238, 241, 147 U.S.P.Q. 391, 393 (CCPA, 1965)).

Specifically, as recognized in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007), while an obviousness determination is not a rigid formula, the TSM (teaching, suggestion, motivation) test captures a helpful insight: A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the art. Although common sense directs caution as to a patent application claiming as innovation the combination of two known [elements] according to their established functions, "it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does." In the instant case, there is simply no apparent reason for one skilled in the art to incorporate Chea into Herzberg and/or Abbas. As such, Applicants' pending claims are patentable over the cited references.

Further, rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness ... *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) quoted with approval in *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007).


Claims 2-7, 11-16, 32-38, 41, 44-46, 48-50, and 53-56 are dependent claims which further distinguish the invention, and which are allowable for the same reasons as their respective independent base claims.

Withdrawal of the rejections of Claims 1-7, 10-16, 31-43, 47-50, 51, 53, and 55 is therefore requested.

In view of the above amendments and remarks, it is believed that this application is now in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should be directed to our address given below.

Respectfully submitted,



Attorney for Applicants
James A. Gromada
Registration No. 44,727

Patent Administrator
KATTEN MUCHIN ROSENMAN, L.L.P.
2900 K Street N.W.
Suite 200
Washington, D.C. 20007-5118
Facsimile: (202) 298-7570